

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: December 7, 2001	Group Art Unit: <del>Unknown</del> 1637

### U.S. PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE

### FOREIGN PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)
<i>See</i>	WO 01/62892 A2	08/30/2001	PCT			


### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)


EXAMINER <i>[Signature]</i>	DATE CONSIDERED 06/06/2005
--------------------------------	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>	Filing Date: December 5, 2001	Group Art Unit: <del>Unknown</del> 1637


See	CAO	Wang and Shuman, "Deletions at the Carboxyl terminus of Vaccinia DNA Topoisomerase Affect DNA Binding and Enhance Distributivity in DNA Relaxation," <i>Biochemistry</i> 36(13):3909-3916 (1997) American Chemical Society.
	CAP	Wang et al., "Mutational Analysis of 26 Residues of Vaccinia DNA Topoisomerase Identifies Ser-204 as Important for DNA Binding and Cleavage," <i>Biochemistry</i> 36(26):7944-7950 (1997) American Chemical Society.
	CAQ	Wexler et al., "A Procedure to Amplify cDNA from dsRNA Templates Using the Polymerase Chain Reaction," <i>Methods in Molecular and Cellular Biology</i> 2:273-279 (1991).
	CAR	Wittschieben and Shuman, "Mechanism of DNA Transesterification by Vaccinia Topoisomerase: Catalytic Contributions of Essential Residues Arg-130, Gly-132, Tyr-136 and Lys-167," <i>Nucleic Acids Res.</i> 25(15):3001-3008. (1997) Oxford University Press.
	CAS	Wittschieben and Shuman, "Mutational Analysis of Vaccinia DNA Topoisomerase Defines Amino Acid Residues Essential for Covalent Catalysis," <i>J. Biol. Chem.</i> 269(47):29978-29983 (1994) The American Society for Biochemistry and Molecular Biology, Inc.
	CAT	Wittschieben et al., "Replacement of the Active Site Tyrosine of Vaccinia DNA Topoisomerase by Glutamate, Cysteine or Histidine Converts the Enzyme into a Site-Specific Endonuclease," <i>Nucleic Acids Res.</i> 26(2):490-496. (1998) Oxford University Press.
	CAU	Woodfield et al., "Vaccinia Topoisomerase and Cre Recombinase Catalyze Direct Ligation of Activated DNA Substrates Containing a 3'-Para-Nitrophenyl Phosphate Ester," <i>Nucleic Acids Res.</i> 28(17):3323-3331 (2000) Oxford University Press.
See	CAV	Yang et al., "A Eukaryotic Enzyme that can Disjoin Dead-End Covalent Complexes Between DNA and Type I Topoisomerases," <i>Proc. Natl. Acad. Sci. U S A.</i> 93(21):11534-11539 (1996) National Academic of Sciences.

EXAMINER 	DATE CONSIDERED 06/06/2005
---	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
<b>INFORMATION DISCLOSURE STATEMENT          BY APPLICANT</b>	Filing Date: December 5, 2001	Group Art Unit: Unknown / 637


See	CAE	Shuman and Moss, "Identification of a Vaccinia Virus Gene Encoding a Type I DNA Topoisomerase," <i>Proc. Natl. Acad. Sci., U S A</i> 84:7478-7482. (1987) National Academic of Sciences.
	CAF	Shuman and Prescott, "Specific DNA Cleavage and Binding of Vaccinia Virus DNA Topoisomerase I" <i>J. Biol. Chem.</i> 265:17826-17836. (1990) The American Society for Biochemistry and Molecular Biology, Inc.
	CAG	Shuman and Turner, "Site-Specific Interaction of Vaccinia Virus Topoisomerase I with Base and Sugar Moieties in Duplex DNA," <i>J. Biol. Chem.</i> 268(25):18943-18950 (1993) The American Society for Biochemistry and Molecular Biology, Inc.
	CAH	Shuman et al., "Intramolecular Synapsis of Duplex DNA by Vaccinia Topoisomerase," <i>EMBO J.</i> 16(21):6584-6589 (1997) Oxford University Press.
	CAI	Shuman et al., "Insertional Mutagenesis of the Vaccinia Virus Gene Encoding a Type I DNA Topoisomerase: Evidence that the Gene is Essential for Virus Growth," <i>Virology.</i> 170(1):302-306 (1989) Academic Press, Inc.
	CAJ	Shuman et al., "Mapping the Active-Site Tyrosine of Vaccinia Virus DNA Topoisomerase I," <i>Proc. Natl. Acad. Sci. U S A.</i> 86(24):9793-9797 (1989) National Academic of Sciences.
	CAK	Shuman et al., "Characterization of Vaccinia Virus DNA Topoisomerase I Expressed in <i>Escherichia coli</i> ", <i>J. Biol. Chem.</i> 263:16401-16407. (1988) The American Society for Biochemistry and Molecular Biology, Inc.
	CAL	Stivers et al., "Stereochemical Outcome and Kinetic Effects of Rp- and Sp- Phosphorothioate Substitutions at the Cleavage Site of Vaccinia Type I DNA Topoisomerase," <i>Biochemistry</i> 39(18):5561-5572. (2000) American Chemical Society.
	CAM	Stivers et al., "Vaccinia DNA Topoisomerase I: Kinetic Evidence for General Acid-Base Catalysis and a Conformational Step," <i>Biochemistry</i> 33(51):15449-15458 (1994) American Chemical Society.
See	CAN	Stivers et al., "Vaccinia DNA Topoisomerase I: Single-Turnover and Steady-State Kinetic Analysis of the DNA Strand Cleavage and Ligation Reactions," <i>Biochemistry</i> 33(1):327-339 (1994) American Chemical Society.

EXAMINER 	DATE CONSIDERED 06/06/2005
---	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
<b>INFORMATION DISCLOSURE STATEMENT          BY APPLICANT</b>	Filing Date: December 5, 2001	Group Art Unit: Unknown-1637

fec	BAS	Sekiguchi et al., "Resolution of Holliday Junctions by Eukaryotic DNA Topoisomerase I," <i>Proc. Natl. Acad. Sci. U S A.</i> 93(2):785-789. (1996) National Academic of Sciences.
	BAT	Shuman, "Analysis of Topoisomerase-DNA Interactions by Electrophoretic Mobility Shift Assay," <i>Methods Mol. Biol.</i> 95:65-74(2001) Hunana Press, Inc.
	BAU	Shuman, "Polynucleotide Ligase Activity of Eukaryotic Topoisomerase I," <i>Mol. Cell.</i> 1(5):741-748. (1998) Cell Press.
	BAV	Shuman, "Vaccinia Virus DNA Topoisomerase: a Model Eukaryotic Type IB Enzyme," <i>Biochim. Biophys. Acta.</i> 1400(1-3):321-337. (1998) Elsevier Science.
	BAW	Shuman, "Vaccinia Virus DNA Ligase: Specificity, Fidelity, and Inhibition," <i>Biochemistry</i> 34:16138-16147 (1995) American Chemical Society.
	BAX	Shuman, "Novel Approach to Molecular Cloning and Polynucleotide Synthesis Using Vaccinia DNA Topoisomerase" <i>J. Biol. Chem.</i> 269(51):32678-32684 (1994).
	BAY	Shuman, "DNA Strand Transfer Reactions Catalyzed by Vaccinia Topoisomerase I", <i>J. Biol. Chem.</i> 267:8620-8627. (1992) The American Society for Biochemistry and Molecular Biology, Inc.
	BAZ	Shuman, "Two Classes of DNA End-Joining Reactions Catalyzed by Vaccinia Topoisomerase I", <i>J. Biol. Chem.</i> 267:16755-16758. (1992) The American Society for Biochemistry and Molecular Biology, Inc.
	CAA	Shuman, "Recombination Mediated by Vaccinia Virus DNA Topoisomerase I In Escherichia coli is Sequence specific," <i>Proc. Natl. Acad. Sci. U S A.</i> 88(22):10104-10108 (1991) National Academic of Sciences.
	CAB	Shuman, "Site-Specific DNA Cleavage by Vaccinia Virus DNA Topoisomerase I. Role of Nucleotide Sequence and DNA Secondary Structure," <i>J. Biol. Chem.</i> 266(3):1796-1803 (1991) The American Society for Biochemistry and Molecular Biology, Inc.
	CAC	Shuman, "Site-Specific Interaction of Vaccinia Virus Topoisomerase I with Duplex DNA. Minimal DNA Substrate for Strand Cleavage in vitro," <i>J. Biol. Chem.</i> 266(17):11372-11379 (1991) The American Society for Biochemistry and Molecular Biology, Inc.
fec	CAD	Shuman, "Vaccinia DNA Topoisomerase I Promotes Illegitimate Recombination in Escherichia coli," <i>Proc. Natl. Acad. Sci. U S A.</i> 86(10):3489-3493 (1989) National Academic of Sciences.

EXAMINER 	DATE CONSIDERED 4/06/2005
---	------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: December 5, 2001	Group Art Unit: Unknown <i>1632</i>


<i>Hec</i>	BAG	Sekiguchi and Shuman, "Mutational Analysis of Vaccinia Virus Topoisomerase Identifies Residues Involved in DNA Binding," <i>Nucleic Acids Res.</i> 25(18):3649-3656. (1997) Oxford University Press.
	BAH	Sekiguchi and Shuman, "Nick Sensing by Vaccinia Virus DNA Ligase Requires a 5' Phosphate at the Nick and Occupancy of the Adenylate Binding Site On the Enzyme," <i>J. Virol.</i> 71(12):9679-84 (1997) American Society for Microbiology.
	BAI	Sekiguchi and Shuman, "Site-Specific Ribonuclease Activity of Eukaryotic DNA Topoisomerase I," <i>Mol. Cell.</i> 1(1):89-97. (1997) Cell Press.
	BAJ	Sekiguchi and Shuman, "Covalent DNA Binding by Vaccinia Topoisomerase Results in Unpairing of the Thymine Base 5' of the Scissile Bond," <i>J. Biol. Chem.</i> 271(32):19436-19442 (1996). The American Society for Biochemistry and Molecular Biology, Inc.
	BAK	Sekiguchi and Shuman, "Identification of Contacts Between Topoisomerase I and Its Target DNA by Site-Specific Photocrosslinking," <i>EMBO J.</i> 15(13):3448-3457 (1996) Oxford University Press.
	BAL	Sekiguchi and Shuman, "Proteolytic Footprinting of Vaccinia Topoisomerase Bound to DNA," <i>J. Biol. Chem.</i> 270(19):11636-11645 (1995) The American Society for Biochemistry and Molecular Biology, Inc.
	BAM	Sekiguchi and Shuman, "Requirements for Noncovalent Binding of Vaccinia Topoisomerase I to Duplex DNA," <i>Nucleic Acids Res.</i> 22(24):5360-5 (1994) Oxford University Press.
	BAN	Sekiguchi and Shuman, "Stimulation of Vaccinia Topoisomerase I by Nucleoside Triphosphates," <i>J. Biol. Chem.</i> 269(47):29760-29764 (1994) The American Society for Biochemistry and Molecular Biology, Inc.
	BAO	Sekiguchi and Shuman, "Vaccinia Topoisomerase Binds Circumferentially to DNA," <i>J. Biol. Chem.</i> 269(50):31731-31734 (1994) The American Society for Biochemistry and Molecular Biology, Inc.
	BAP	Sekiguchi, et al., "Resolution of a Holliday Junction by Vaccinia Topoisomerase Requires a Spacer DNA Segment 3' of the CCCTT↓ Cleavage Sites," <i>Nucleic Acids Res.</i> 28(14):2658-2663. (2000) Oxford University Press.
	BAQ	Sekiguchi et al., "Kinetic Analysis of DNA and RNA Strand Transfer Reactions Catalyzed by Vaccinia Topoisomerase," <i>J. Biol. Chem.</i> 272(25):15721-15728 (1997) The American Society for Biochemistry and Molecular Biology, Inc.
<i>Hec</i>	BAR	Sekiguchi, et al., "Mechanism of Inhibition of Vaccinia DNA Topoisomerase by Novobiocin and Coumermycin," <i>J. Biol. Chem.</i> 271(4):2313-2322 (1996) The American Society for Biochemistry and Molecular Biology, Inc.

EXAMINER <i>[Signature]</i>	DATE CONSIDERED <i>[Signature]</i>
--------------------------------	---------------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>	Filing Date: December 5, 2001	Group Art Unit: Unknown 1637

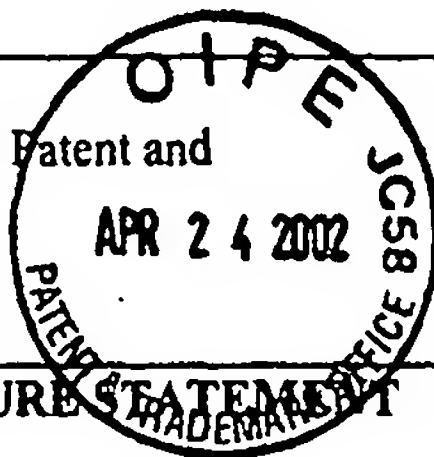
Acc	AAU	Lockard et al., "Labeling of Eukaryotic Messenger RNA 5' Terminus with Phosphorus-32: Use of Tobacco Acid Pyrophosphatase for Removal of Cap Structures," <i>Gene Amplification and Analysis</i> 2:229-251. (1981) Elsevier Science.
	AAV	Maruyama and Sugano, "Oligo-Capping: A Simple Method to Replace the Cap Structure of Eukaryotic mRNAs with Oligoribonucleotides," <i>Gene</i> . 138:171-174 (1994).
	AAW	Morham and Shuman, "Covalent and Noncovalent DNA Binding by Mutants of Vaccinia DNA Topoisomerase I," <i>J. Biol. Chem.</i> 267:15984-15992 (1992) The American Society for Biochemistry and Molecular Biology, Inc.
	AAX	Morham and Shuman, "Phenotypic Selection and Characterization of Mutant Alleles of a Eukaryotic DNA Topoisomerase I," <i>Genes. Dev.</i> 4(4):515-524 (1990) Cold Spring Harbor Laboratory Press.
	AAZ	Palaniyar et al. "SFV Topoisomerase: Sequence Specificity in a Genetically Mapped Interval," <i>Virology</i> 221:351-354 (1996). American Press, Inc.
	AAZ	Petersen and Shuman, "DNA Strand Transfer Reactions Catalyzed by Vaccinia Topoisomerase: Hydrolysis and Glycerololysis of the Covalent Protein-DNA Intermediate," <i>Nucleic Acids Res.</i> 25(11):2091-2097 (1997) Oxford University Press.
	BAA	Petersen and Shuman, "Histidine 265 is Important for Covalent Catalysis by Vaccinia Topoisomerase and is Conserved in all Eukaryotic Type I Enzymes," <i>J. Biol. Chem.</i> 272(7):3891-3896 (1997) The American Society for Biochemistry and Molecular Biology, Inc.
	BAB	Petersen et al., "Characterization of a DNA Topoisomerase Encoded by Amsacta Moore Entomopoxvirus," <i>Virology</i> 230(2):197-206 (1997) Academic Press, Inc.
	BAC	Petersen et al., "Mutations within a Conserved Region of Vaccinia Topoisomerase Affect the DNA Cleavage-Religation Equilibrium," <i>J. Mol. Biol.</i> 1263(2):181-195 (1996) Academic Press Limited.
	BAD	Salazar et al., "The DNA Strand in DNA-RNA Hybrid Duplexes is Neither B-Form nor A-Form in Solution," <i>Biochemistry</i> 32(16):4207-4215 (1993) American Chemical Society.
	BAE	Schmitt et al., "Affinity Purification of Histidine-Tagged Proteins," <i>Molecular Biology Reports</i> 18:223-230 (1993).
Acc	BAF	Sekiguchi and Shuman, "Domain Structure of Vaccinia DNA Ligase," <i>Nucleic Acids Res.</i> 25(4):727-734 (1997) Kluwer Academic Publishers.

EXAMINER 	DATE CONSIDERED 06/06/2005
---	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**BEST AVAILABLE COPY**

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>	Filing Date: December 5, 2001	Group Art Unit: <del>Unknown</del> 1637



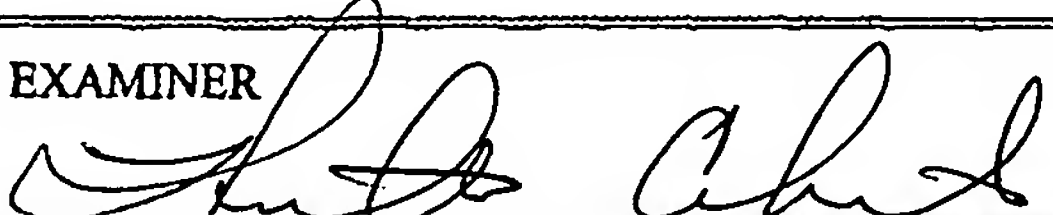
Hee	AAK	Kane and Shuman, "Vaccinia Virus Morphogenesis is Blocked by a Temperature-Sensitive Mutation in the I7 Gene that Encodes a Virion Component," <i>J. Virol.</i> 67(5):2689-2698 (1993) American Society for Microbiology.
	AAL	Kato et al., "Construction of a Human Full-Length cDNA Bank," <i>Gene</i> . 150: 243-250 (1994) Elsevier Science.
	AAM	Klemm et al., "Peptide Inhibitors of DNA Cleavage by Tyrosine Recombinases and Topoisomerases," <i>J. Mol. Biol.</i> 299(5):1203-1216. (2000) Academic Press, Inc.
	AAN	Klemperer et al., "Identification and Characterization of the orf Virus Type I Topoisomerase," <i>Virology</i> 206:203-215 (1995) Academic Press, Inc.
	AAO	Krogh and Shuman, "Vaccinia Topoisomerase Mutants Illuminate Conformational Changes During Closure of the Protein Clamp and Assembly of a Functional Active Site," <i>J. Biol. Chem.</i> July 5 2001 [Manuscript] The American Society for Biochemistry and Molecular Biology, Inc.
	AAP	Krogh and Shuman, "Catalytic Mechanism of DNA Topoisomerase IB," <i>Mol. Cell.</i> 5(6):1035-1041 (2000) Cell Press.
	AAQ	Krogh and Shuman, "DNA Strand Transfer Catalyzed by Vaccinia Topoisomerase: Peroxidolysis and Hydroxylaminolysis of the Covalent Protein-DNA Intermediate," <i>Biochemistry</i> 39(21):6422-6432. (2000) American Chemical Society.
	AAR	Krogh et al., "Effect of 2'-5' Phosphodiesterases on DNA Transesterification by Vaccinia Topoisomerase," <i>J. Biol. Chem.</i> 276(24):20907-20912. (2001) The American Society for Biochemistry and Molecular Biology, Inc.
	AAS	Krogh et al., "Melanoplus Sanguinipes Entomopoxvirus DNA Topoisomerase: Site-Specific DNA Transesterification and Effects of 5'-Bridging Phosphorothiolates," <i>Virology</i> 264(2):441-451. (1999) Academic Press, Inc.
Hee	AAT	Liu et al., "Mapping the 5' and 3' Ends of Tetrahymena thermophila mRNAs Using RNA Ligase Mediated Amplification of cDNA Ends (RLM-RACE)," <i>Nucleic Acids Research</i> 21(21): 4954-4960. (1993) The Oxford University Press.

EXAMINER 	DATE CONSIDERED 06/06/2005
--------------	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
<b>INFORMATION DISCLOSURE STATEMENTS BY APPLICANT</b>	Filing Date: December 5, 2001	Group Art Unit: Unknown <i>1637</i>

<i>See</i>	AAA	Cheng et al., "Mutational Analysis of 39 Residues of Vaccinia DNA Topoisomerase Identifies Lys-220, Arg-223, and Asn-228 as Important for Covalent Catalysis," <i>J. Biol. Chem.</i> 272(13):8263-8269 (1997) The American society for Biochemistry and Molecular Biology, Inc.
	AAB	DiGate and Marians, "Molecular Cloning and DNA Sequence Analysis of <i>Escherichia coli topB</i> , the Gene Encoding Topoisomerase III," <i>J. Biol. Chem.</i> 264(30):17924-17930 (1989). The American society for Biochemistry and Molecular Biology, Inc.
	AAC	Edery et al., "An Efficient Strategy to Isolate Full-Length cDNAs Based on an mRNA Cap Retention Procedure (CAPture)," <i>Mol. Cell. Biol.</i> , 15(6):3363-3371 (1995). American Society for Microbiology.
	AAD	Ericsson et al., "Characterization of <i>ts16</i> , a Temperature-Sensitive Mutant of Vaccinia Virus," <i>J. Virol.</i> 69(11):7072-7086 (1995) American Society for Microbiology.
	AAE	Gross and Shuman, "Vaccinia Virions Lacking the RNA Helicase Nucleoside Triphosphate Phosphohydrolase II are Defective in Early Transcription," <i>J. Virol.</i> 70(12):8549-8557 (1996) American Society for Microbiology.
	AAF	Haghighat and Sonenberg. "eIF4G Dramatically Enhances the Binding of eIF4E to the mRNA 5'-Cap Structure," <i>J. Biol. Chem.</i> , 272(35):21677-21680 (1997). The American society for Biochemistry and Molecular Biology, Inc.
	AAG	Haghighat et al., "The eIF4G-eIF4E Complex is the Target for Direct Cleavage by the Rhinovirus 2A Proteinase," <i>J. Virol.</i> 70:8444-8450 (1996). American Society for Microbiology.
	AAH	Henningfeld and Hecht, "A Model for Topoisomerase I-Mediated Insertions and Deletions with Duplex DNA Substrates Containing Branches, Nicks, and Gaps," <i>Biochemistry</i> 34(18):6120-6129. (1995) American Chemical Society.
	AAI	Invitrogen Corporation. <i>Invitrogen Catalog</i> , Carlsbad, California, pages 18, 29, 43, 44, 49-52 (1998).
<i>See</i>	AAJ	Janknecht et al., "Rapid and Efficient Purification of Native Histidine-Tagged Protein Expressed by Recombinant Vaccinia Virus," <i>Proc. Natl. Acad. Sci., U S A</i> 88:8972-8976 (1991) National Academic of Sciences.

EXAMINER 	DATE CONSIDERED <i>26/10/2005</i>
---	--------------------------------------

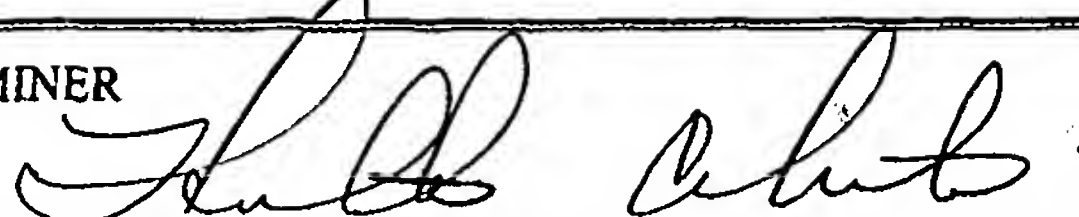
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: December 5, 2001	Group Art Unit: Unknown 1637

HCC	AP	WO 98/20122	05/14/98	PCT			Yes (Abstract)
	AQ	WO 98/55502	12/10/98	PCT			
	AR	WO 98/56943	12/17/98	PCT			
HCC	AS	WO 00/56878	09/28/00	PCT			

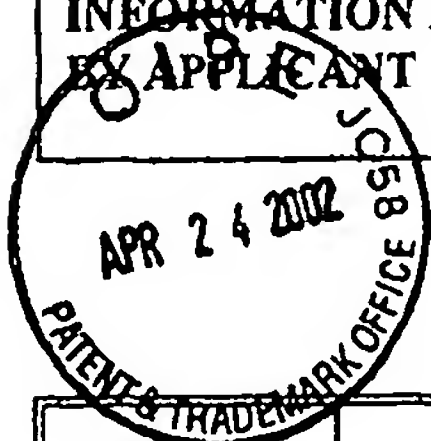
**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)**

HCC	AT	Caminci et al. "High-Efficiency Full-Length cDNA Cloning by Biotinylated CAP Trapper," <i>Genomics</i> , 37(3):327-36 (1996) Academic Press, Inc.
	AU	Caminci et al. "High Efficiency Selection of Full-Length cDNA by Improved Biotinylated Cap Trapper," <i>DNA Research</i> , 4:61-66 (1997). Universal Academy Press.
	AV	Cheng and Shuman, "DNA Strand Transfer Catalyzed by Vaccinia Topoisomerase: Ligation of DNAs Containing a 3' Mononucleotide Overhang," <i>Nucleic Acids Res.</i> , 28(9):1893-1898. (2000). Oxford University Press.
	AW	Cheng and Shuman, "Recombinogenic Flap Ligation Pathway for Intrinsic Repair of Topoisomerase IB-Induced Double-Strand Breaks," <i>Mol. Cell. Biol.</i> 20(21):8059-8068 (2000) American Society for Microbiology.
	AX	Cheng and Shuman, "Site-Specific DNA Transesterification by Vaccinia Topoisomerase: Role of Specific Phosphates and Nucleosides," <i>Biochemistry</i> 38(50):16599-16612 (1999) American Chemical Society.
	AY	Cheng and Shuman, "A Catalytic Domain of Eukaryotic DNA Topoisomerase I," <i>J. Biol. Chem.</i> 273(19):11589-11595 (1998) The American Society for Biochemistry and Molecular Biology, Inc.
HCC	AZ	Cheng et al., "Conservation of Structure and Mechanism Between Eukaryotic Topoisomerase I and Site-Specific Recombinases," <i>Cell</i> . 92(6):841-850 (1998) Cell Press.

EXAMINER 	DATE CONSIDERED 06/06/2005
--	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: December 5, 2001	Group Art Unit: <del>Unknown</del> 1637



### U.S. PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
<i>HCC</i>	AA	4,661,450	04/28/87	Kempe et al			
	AB	4,800,159	01/24/89	Mullis et al.			
	AC	5,624,826	04/29/97	Kato, et al.			
	AD	5,766,891	06/16/98	Shuman			
	AE	5,958,681	09/28/99	Wetmur et al.			
	AF	6,238,884 B1	05/29/01	Short and Frey			
	AG	6,280,977 B1	08/28/01	Liang and Felgner			
<i>HCC</i>	AH	6,291,213 B1	09/18/01	Rothstein			

### FOREIGN PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)
<i>HCC</i>	AI	85/04898	11/07/85	PCT			
	AJ	0 373 914 A2	06/20/90	EP			
	AK	0 625 572 A1	11/23/94	EP			
	AL	WO 94/29443	12/22/94	PCT			
	AM	WO 96/19497	06/27/96	PCT			
	AN	WO 96/34981	11/07/96	PCT			
<i>HCC</i>	AO	WO 97/24455	07/10/1997	PCT			

EXAMINER <i>Ruth Culbert</i>	DATE CONSIDERED 06/06/2005
---------------------------------	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
U.S. Department of Commerce Patent and Trademark Office

NOV 06 2002

Docket No.: INVIT1290-2

Application No.: 10/014,128

Applicants: Carrino et al.

Filing Date: December 7, 2001

Group Art Unit: 1645

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

RECEIVED NOV 07 2002

TECH CENTER 1600/2900

### U.S. PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
HCC	US 6,277,632 B1	08/21/01	Harney			
HCC	US 6,340,595 B1	01/22/02	Vogels et al.			

### FOREIGN PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION (YES/NO)
HCC	WO 97/48716	12/24/97	PCT			
HCC	WO 98/56943	12/17/98	PCT			

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

	NONE

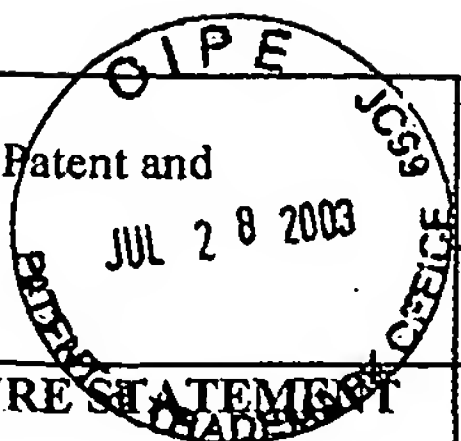
EXAMINER: *Ruth A. Albright*

DATE CONSIDERED: 06/06/2005

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino, et al.	
<b>INFORMATION DISCLOSURE STATEMENT          BY APPLICANT</b>	Filing Date: December 7, 2001	Group Art Unit: 1645



**RECEIVED**

JUL 30 2003

**U.S. PATENT DOCUMENTS**

TECH CENTER 1600/2900

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
<i>Mac</i>	US 6,013,440	01/11/00	Lipshutz, et. al.			
	6,140,086	10/31/00	Fox et al.			
	US 2001/0044137 A1	11/22/01	Heyman et al.			
	US 2002/0025561 A1	02/28/02	Hodgson			
	US 2002/0028444 A1	03/07/02	Harney et al.			
	US 2002/0068290	06/06/02	Yarovinsky			
	US 2002/0182731 A1	12/05/02	Ji et al.			
	US 6,537,776 B1	03/25/03	Short			
<i>Mac</i>	US 6,548,277 B1	04/15/03	Shuman			

**FOREIGN PATENT DOCUMENTS**

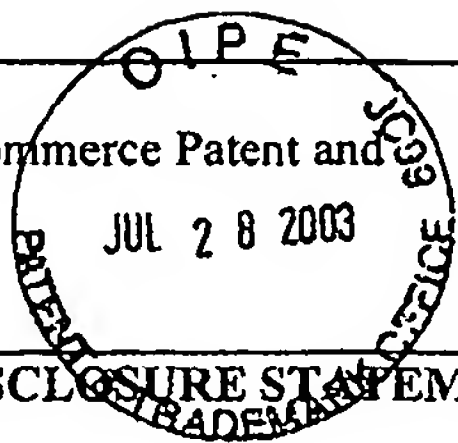
EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)
<i>Mac</i>	WO 00/12687	03/09/00	PCT			

EXAMINER <i>John A. Chubb</i>	DATE CONSIDERED 06/06/2005
----------------------------------	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form 1449

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	<b>Docket No.:</b> INVIT1290-2	<b>Application No.:</b> 10/014,128
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>	<b>Applicants:</b> Carrino, et al.  <b>Filing Date:</b> December 7, 2001	<b>Group Art Unit:</b> 1645



**RECEIVED**

JUL 30 2003

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)** **TECH CENTER 1600/2900**

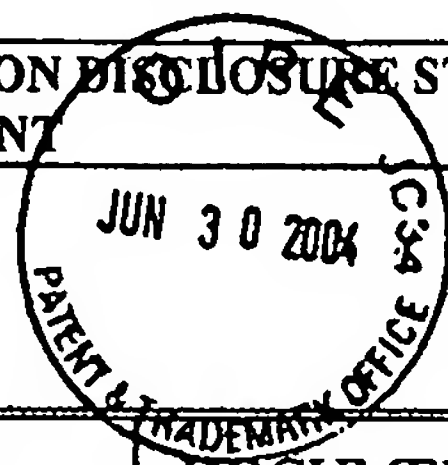
Hce	Heyman et al., "Genome-Scale Cloning and Expression of Individual Open Reading Frames Using Topoisomerase I-Mediated Ligation," <i>Genome Research</i> , pp 383-392. (1999)

<b>EXAMINER</b> 	<b>DATE CONSIDERED</b> 06/06/2005
---------------------	--------------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form 1449

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino et al.	
<b>INFORMATION DISCLOSURE STATEMENT</b> BY APPLICANT	Filing Date: December 7, 2001	Group Art Unit: 1637



### U.S. PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
HCC	5,162,209 A	11/10/92	Scheele	435	91	01/18/91
	5,746,997 A	05/05/98	Reed	424	1.73	10/02/96
	5,851,808 A	12/22/98	Elledge et al.	435	172.3	02/28/97
	5,981,182 A	11/09/99	Jacobs, Jr. et al.	435	6	03/13/97
	6,174,669 B1	01/16/01	Hayashizaki et al.	435	6	11/20/96
HCC	6,653,106 B1	11/25/03	Shuman et al.	435	91.1	06/12/98

### FOREIGN PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION (YES/NO)
HCC	EP 1 018 549 A1	07/12/00	EPO	C12N	15/10	N/A
HCC	WO 01/62943 A1	08/30/01	WO	C12N	15/64	N/A
HCC	WO 02/16594 A2	02/28/02	WO	C12N	15/00	N/A

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

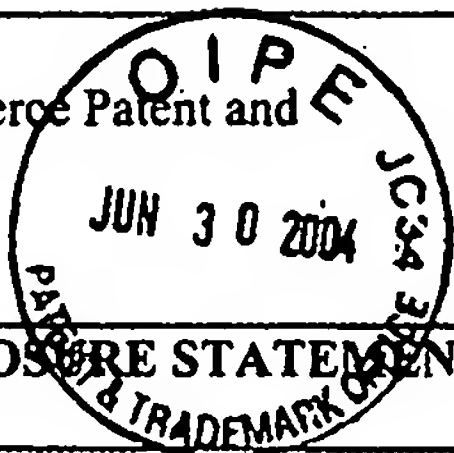
HCC	Arnott et al., "DNA-RNA Hybrid Secondary Structures," <i>J. Mol. Biol.</i> , vol. 188, pp. 631-640 (1986)
HCC	Chong et al., "Single-column purification of free recombinant proteins using a self-cleavable affinity tage derived from a protein splicing element", <i>Gene</i> , vol. 192, pp. 271-281 (1997)

EXAMINER 	DATE CONSIDERED 6/06/2005
--------------	------------------------------

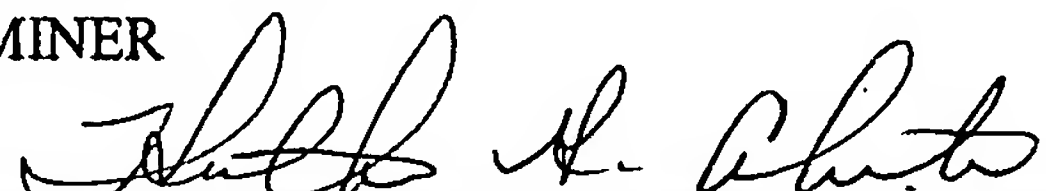
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form 1449

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>	Applicants: Carrino et al.  Filing Date: December 7, 2001	Group Art Unit: 1637



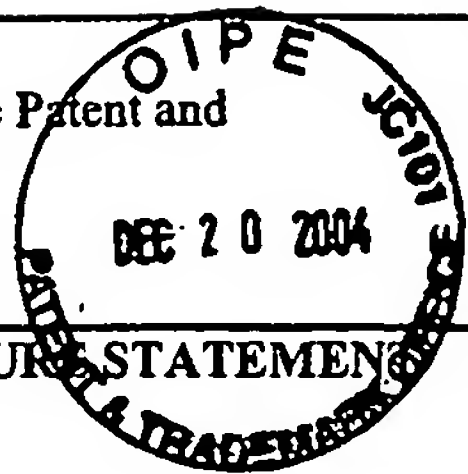
MCE		Matthews et al., "Analytical Strategies for the Use of DNA Probes", <i>Anal. Biochem.</i> , vol. 169, pp. 1-25 (1988)
		Sambrook et al., <i>Molecular Cloning - A Laboratory Manual</i> , 2nd Ed., Cold Springs Harbor Laboratory Press, pp. 2.53-2.54, 16.8-16.9, 16.20 and 16.22 (1989)
		Shatkin, "Capping of Eucaryotic mRNAs", <i>Cell</i> , vol. 9, pp. 645-653 (1976)
		Theus et al., "A Simple Assay for Determining the Capping Efficiencies of RNA Polymerases Used for <i>In Vitro</i> Transcription", <i>BioTechniques</i> , vol. 9, pp. 610-615 (1990)
		Yarovinsky, "Application of DNA Topoisomerase-Activated Adapters to Riboprobe Synthesis", <i>BioTechniques</i> , vol. 28, pp. 1160-1165 (2000)
MCE		Zechiedrich et al., "Topoisomerase IV, not gyrase, decatenates products of site-specific recombination in <i>Escherichia coli</i> ", <i>Genes &amp; Development</i> , vol. 11, pp. 2580-2592 (1997)

EXAMINER 	DATE CONSIDERED 06/06/2005
--	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form 1449

<b>FORM PTO-1449</b> U.S. Department of Commerce Patent and Trademark Office	Docket No.: INVIT1290-2	Application No.: 10/014,128
	Applicants: Carrino, et al.	
<b>INFORMATION DISCLOSURE STATEMENT          BY APPLICANT</b>	Filing Date: December 7, 2001	Group Art Unit: 1637



### U.S. PATENT DOCUMENTS


EXAM. INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE

### FOREIGN PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

AA	Sykes and Johnston, "Linear Expression Elements: A Rapid, <i>In Vivo</i> , Method to Screen For Gene Functions", Nature Biotechnology, Vol. 17, pages 355-359, April 1999

EXAMINER 	DATE CONSIDERED 06/06/2005
---	-------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form 1449